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TITLE: Surveillance of Occupational Exposures to Bloodborne Pathogens: The Italian National Program

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ISSUE: Health care workers (HCWs) face a serious risk of acquiring bloodborne infections, in particular HBV, HCV and HIV. Several incidence studies have been performed to estimate occupational risk of bloodborne infection. While results for HIV are generally consistent, published rates for HCV differ drastically between studies. Knowledge of determinants of occupational exposures and infection will allow for effective prevention.

SETTING: In Italy, a multicentre prospective study was begun in 1986, enrolling more than 60 acute-care public hospitals on a voluntary basis. In 1990, an ongoing National Registry of Post-Exposure Antiretroviral Prophylaxis treatment was instituted. Benefits gained through our study will be mainly for health care professionals.

PROJECT: The research team of the Studio Italiano Rischio Occupazionale da HIV (SIROH) (1) developed and updated standardized protocol for the management of occupational exposures, and a standardized tool for data collection, adopted by participating hospitals, (2) actively encouraged the implementation of hospital-based systems for surveillance of occupational exposures, (3) collected data annually (since 1989) on the main resource and activity denominators, to calculate specific exposure rates, (4) used nationwide data to estimate incidence of occupational bloodborne infection, identify high-risk devices, procedures and jobs in the health care setting, and evaluate the efficacy of preventive measures.

RESULTS: From 1994 to 1998, 19,860 occupational exposures were reported. Incidence rates of occupational HIV (5/3166, 0.2%) infection are consistent with those previously observed, while observed rates of HCV infection among HCWs exposed to an anti-HCV positive source are lower than previously described (14/3604, 0.4%). The highest rate of occupational exposure per 10 person-years was observed in surgeons (10.1%), followed by nurses (8.4%) and midwives (6.6%). About 12% of all exposures involved training personnel, i.e., nurses and doctors. Intravenous catheters and winged steel needles have the highest rate of exposure per 100,000 devices used (16 and 9, respectively). Incidents occur mostly during use (about 35%) and at disposal (15-20%). Rates for disposable syringes and vacuum sets declined after the adoption of sharps containers and the implementation of universal precautions. Rates of HBV vaccination and use by personal of protective equipment increased following education and training.

LESSONS LEARNED: Effective surveillance systems based on network of hospitals for monitoring existing practices and methods and gathering information about occupational risk are essential for achieving a safer health care workplace.

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